

Dr. Suxing Liu

CONTACT INFORMATION

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PROFESSIONAL EXPERIENCE

- 06/2017 - present Postdoc research associate, Department of Plant Biology,
Institute of Bioinformatics, University of Georgia, Athens, USA
- 09/2014-06/2017 Research Associate at Arkansas State University, Jonesboro, AR, USA
- 09/2013-09/2014 PostDoc Researcher at James and Jean Culver Vision Discovery Institute,
Georgia Regents University, Augusta, GA, USA
- 11/2010-11/2012 Research Engineer at Barcelona Media – Innovation Centre, Spain, Europe
- 09/2009-09/2010 PostDoc Researcher at EISLAB, Luleå University of Technology, Sweden, Europe

EDUCATION

- 03/2006-06/2009 Ph.D. in Communication and Information Engineering, Shanghai University, China
Dissertation: “Research on some key technologies concerning 3D multi-view video system”
Advisors: Zhaoyang Zhang & Ping An
- 09/1999-03/2006 M.sc. and B.sc., Electronic & Information Engineering, North University of China, China
Dissertation: “Video & image feature extraction based on DSP”
Advisor for M.sc. and B.sc thesis: Yan Han

AWARDS & GRANTS

- 02/2019 2019 Travel Grant for Phenome 2019, February 6-10, 2019 – Tucson Arizona
- 01/2018 2018 Travel Grant for Phenome 2018, February 14-17, 2018 – Tucson Arizona
- 04/2017 Young Scientist Excellence Award (2nd) at 2017 MidSouth Computational Biology and
Bioinformatics Society
- 09/1999 - 06/2003 Presidential Award for Excellent College Undergraduate Student for 4 years

JOURNAL REVIEW RECORD

Date	Manuscript	Journal
2019-04-18	Quantifying variation in soybean due to flood using a 3D imaging system	Sensors
2018-12-22	Comparing nadir and multi-angle view sensor technologies for measuring in-field plant height of upland cotton	Remote Sensing
2018-12-07	Implementation Steganography of SLT-DCT on Images to Improve Steganography Image Quality	International Journal of Advanced Computer Science and Applications
2018-12-07	Abnormal Region Extraction from Mr Brain Images Using Hybrid Approach	International Journal of Advanced Computer Science and Applications
2018-10-08	Research on a hand-held 3D laser scanning system for measuring large-sized objects	<u>Sensors</u>
2018-09-30	Observation of soil-grown pepper roots with adaptive minirhizotron based on root system architecture traits	<u>Plant Methods</u>
2018-09-10	Research on a hand-held 3D laser scanning system for measuring large-sized objects	<u>Sensors</u>
2018-09-06	Hyperspectral imaging: A novel approach for structural and functional plant root phenotyping	<u>Plant Methods</u>
2018-06-20	Three-Dimensional Reconstruction of Soybean Canopies using Multi-Source Imaging for Phenotyping Analysis	<u>Remote Sensing</u>
2017-11-22	Application of hyperspectral imaging combined with chemometrics to detect oilseed rape (<i>Brassica napus</i> L.) leaves infected by <i>Sclerotinia</i> stem rot	<u>Plant Methods</u>
2017-11-09	Evaluation of seed emergence uniformity of mechanically sown wheat with UAV RGB imagery	<u>Remote Sensing</u>
2017-10-04	Analysis of Optical Flow Techniques in Video Processing	<u>International Journal of Advanced Computer Science and Applications</u>
2017-10-03	Application Independent Localization of Vehicle Plate Number Using Multi-Size Window Binarization and Hybrid Genetic Algorithms	<u>International Journal of Advanced Computer Science and Applications</u>
2015-12-10	Performance Evaluation of K-mean and Fuzzy c-mean image segmentation based clustering classifier	<u>International Journal of Advanced Computer Science and Applications</u>
2015-07-01	Extensive Evaluation of LSB Substitution Steganography	<u>International Journal of Advanced Computer Science and Applications</u>
2015-06-10	Clustering Scrutiny On Mri Images Using Ikm	<u>International Journal of Advanced Computer Science and Applications</u>
2015-06-01	Multiple Sclerosis Lesions Identification Technique Using MR Images	<u>International Journal of Advanced Computer Science and Applications</u>
2014-05-05	A Novel Method for Hand Gesture Recognition	<u>The Scientific World Journal</u>

PROFESSIONAL ACTIVITIES

Invited talk & poster	ASPB 2019, August 3-7, 2018 – San Jose, California	2019
Poster presentation	CROPS 2019, June 3-6, 2019 – Huntsville, Alabama	2019
Poster presentation	Phenome 2019, February 6-10, 2019 – Tucson Arizona	2019
Invited talk	Phenome 2018 – February 14-17, 2018 – Tucson Arizona	2018
Invited talk	2017 MidSouth Computational Biology and Bioinformatics Society	2017
Oral presentation	Arkansas EPSCO State Conference	2016
Poster presentation	Plant Imaging Consortium Annual Meeting	2016
Poster presentation	54 th Annual Meeting of the Phytochemical Society of North America	2015
Poster presentation	Arkansas NSF EPSCOR Annual Conference	2015

PUBLICATIONS

Book

《Internet Surfing Tutorial》, Editor in Chief, Sep. 2001, Sichuan Science and Technology Publication Press, 260 thousand words, ISBN 7-5364-4746-9/TP.154. page1~154

《3G Mobile Phone》, Editor in Chief, Feb. 2010, China Machine Press, 220 thousand words, ISBN 978-7-111-29403-0
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Patents

“Virtual view rendering method for converge camera array system”, Feb. 18th 2009: CN101369348, Patent Office of China

“Free viewpoint image quality evaluation method based on ray-space”, Jul. 8th 2009: CN101478694, Patent Office of China

JOURNAL PUBLICATIONS

- [1] Acosta-Gamboa LM, Suxing L, Raquel T, Argelia L. Characterization of the response to abiotic stresses of high ascorbate Arabidopsis lines using phenomic approaches. *Plant Physiology and Biochemistry*. 2020 Apr 9.
- [2] Liu S, Acosta-Gamboa LM, Huang X, Lorence A. (2017) Novel low-cost 3D surface model reconstruction system for plant phenotyping, *Journal of Imaging*. 3(3): 39.
- [3] Liu S, Acosta-Gamboa LM, Huang X, Lorence A. A novel approach to leaf counting for Arabidopsis. In preparation to *Journal of Computational Biology*. (2017)
- [4] Acosta-Gamboa LM, Liu S, Campbell Z, Torres R, Suza W, Yactayo-Chang JP, Gaxiola R, Huang X, Lorence A. High throughput phenotyping of high ascorbate Arabidopsis lines under salt and water limitation conditions. In preparation to *Frontiers in Plant Science*. (2017)
- [5] Acosta-Gamboa L M, Liu S, Langley E, et al. (2016) Moderate to severe water limitation differentially affects the phenome and ionome of Arabidopsis. *Functional Plant Biology (SCI)*, 44(1): 94-106.
- [6] Liu, S.-X.; Z. Yang (2015) Action Encoding and Recognition based on Multi-Scale Spatial-Temporal Natural Action

- Structures, *Journal of Vision*, vol3, 12-14.
- [7] Wang Y, Liu, S.-X.; (2015) Spatio-temporal Feature Classifier. *Open Automation and Control Systems Journal (EI)* 7: 1-7.
- [8] Y. Wang, Liu, S.-X.; (2013). Implementation of 3D Modeling and Visualization for CAE Industry Application, *Advanced Materials Research (EI)* 675: 63-66.
- [9] Yun W., Liu, S.-X.; (2013) Meshing Generation Platform for Industrial Production Models based on 3D Computational Model, *Advanced Materials Research(EI)* 675: 144-147.
- [10] Liu, S.-X.;, M. Caballero (2012). 3D Compositing: Object insertion based on 2.5D format. *IEEE 2012 International Symposium on Haptic Audio Visual Environments and Games (HAVE 2012)(EI)* October: 8-9.
- [11] W. Yun, Liu, S.-X.;, Li W. (2012) Development of platform for meshing and visualization of 3D computational model, *Journal of Lanzhou University of Technology*, Vol. 38(4): 78-79
- [12] Zhang Q, Liu S, An P, et al. (2009) Object segmentation based on disparity estimation[C]*Proceedings of the first ACM/SIGEVO Summit on Genetic and Evolutionary Computation. ACM*, 1053-1056.
- [13] Liu, S.-X.; An, P.; PMi. T.; Zhang, Z.-Y (2009) Virtual View synthesis and Plane Sweep based Depth Correction for Free-view Video, *Journal of Optoelectronics Laser (EI)* 9:1234-1237.
- [14] Liu, Zhan-Wei; An, Ping; Liu, Su-Xing; Zhang, Zhao-Yang (2007). Arbitrary view generation based on DIBR. Proceedings: *2007 IEEE International Symposium on Intelligent Signal Processing and Communication Systems, ISPACS 2007(EI)*: 168-171.
- [15] Zhang, Q.; Liu, S.-X.; An, P.; Zhang, Z.-Y (2009) A novel DIBR method based on image inpainting. *Journal of Optoelectronics Laser (EI)*, 2009,(10):1381~1384
- [16] Liu, S.-X.; An, P.; Zhang, Z.-Y.; Zhang, Q. Tao Y. (2009) Multi-view video coding based on resultant vector estimation and weighted disparity interpolation. *Circuits, Systems & Signal Processing (SCI)* 28 (6): 913.
- [17] Shen L, Liu Z, Liu S, et al. (2009) Selective disparity estimation and variable size motion estimation based on motion homogeneity for multi-view coding[J]. *IEEE Transactions on Broadcasting*, 55(4): 761-766.
- [18] Liu, S.-X.; An, P.; Zhang, Z.-Y.; Zhang, Q.; Shen, L.-Q.; Jiang, G.-Y (2009) High quality virtual view synthesis based on corrected surface mapping and image fusion. *Electronics Letters (SCI)* 45(1): 30-32.
- [19] Liu, S.-X.; An, P.; Zhang, Z.-Y.; Zhang, Q.; Shen, L.-Q.; Jiang, G.-Y (2009) On the relationship between multi-view data capturing and quality of rendered virtual view, *Imaging Science Journal (SCI)* 157: 250-259.
- [20] Liu, S.-X.; An, P.; Zhang, Z.-Y (2008) A plane-sweep based depth reconstruction for DIBR. *Chinese Journal of Electron Devices*, 2008(01): 320-324
- [21] An, P.; Zhang, Z.-Y.; Liu, S.-X (2008) Image mosaic based view synthesis for interactive stereoscopic display. *Chinese Journal of Electron Devices*, 2008(01): 285-289
- [22] Zhang, Z.-Y.; An, P.; Liu, S.-X (2008) 3D multi-view stereoscopic display and its key technologies. *Chinese Journal of Electron Devices*, 2008(01): 302-307
- [23] Mi. T.; An, P.; Liu, S.-X.; Zhang, Z.-Y (2008) Multi-camera calibration based on multi- view registration algorithm. *Journal of Image and Graphics*. 2008(10): 1922-1925
- [24] Shi X, Zhang Z, Shen L, et al. (2007) Multiresolution segmentation of video objects in the compression domain [J]. *Optical Engineering*, 46(9): 097401.
- [25] An, P.; LIU, Z.-W.; Liu, S.-X.; Zhang, Z.-Y (2007). Intermediate view synthesis based on image mosaic in video conferencing. *Journal of Shanghai University (Natural Science Edition)*, 2007(10): 371-376
- [26] LIU, Z.-W.; An, P.; Liu, S.-X.; Zhang, Z.-Y (2007) Arbitrary view rendering based on DIBR and image mergence. *Journal of Image and Graphics*, 2007(10): 1696-1700
- [27] Liu, S.-X.; Zhang, Z.-Y.; LIU, Z.-W.; An, P (2007) Interactive arbitrary-view rendering system using fast IBR and depth correction, Proceedings: 2007 *IEEE International Symposium on Intelligent Signal Processing and Communication Systems, ISPACS (EI)*, 2007: 164-167.
- [28] Liu, S.-X.; An, P.; Zhang, Z.-Y.; Liu, Z.-W (2007) Multi-view video coding based on resultant vector estimation, Proceedings: *The 2nd IET International Communication Conference on Wireless Mobile & Sensor Networks (EI)*, 2007(12): 359-363.
- [29] An, P.; Liu, S.-X.; GAO, X.; Zhang, Z.-Y (2006) Stereoscopic video object extraction based on disparity and

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threshold. *Journal of Image and Graphics*. 2006(11): 1669-1673

Professional Skills Machine learning, Pattern recognition, 3D display; 3D/Stereo/Multi-view image & video processing; 3D Computer vision; Image processing; Computer graphics; CG modeling; human-computer interaction (HCI); Augmented reality, Visual SLAM Programming language: Matlab, C/C++, OpenGL, OpenCV, Visual Studio C++ (GUI design), MFC. Python English level Fluent both in oral & written. TOEFL: 603 (667) GRE: 1200(1600), Second Prize 'National English Contest for College Students

UGA Postdoctoral Association, Executive Board 2018-2019

- Library Council Rep: Suxing Liu
- University Council Rep: Suxing Liu